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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/049,869 | 03/21/2002 | Jean Kersten | 32396 | 2341 |

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EXAMINER

YOON, TAE H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1714

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,869

Applicant(s)

KERSTEN ET AL.

Examiner

Tae H Yoon

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-73 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 30-73 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Art Unit: 1714

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 30-73 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The abbreviated "SIS" is indefinite and a full spelling is needed at least at the first occurrence in claim 30.

The recited amount of bound styrene is indefinite since it is unclear whether said amount of bound styrene is the total bound styrene content or bound styrene content of block (S) in SIS (see table 1 of Shibata et al (US 5,306,779) showing different amounts of bound styrene).

It is unclear whether the recited "a not cross-linked thermoplastic SIS elastomer" is a part of the recited styrene elastomer or not in claims 30, 50, 66, 68 and 71.

The recited molecular weight in claims 31, 32, 51 and 52 is indefinite in not specifying a weight average or number average molecular weight since the properties of polymer would be different depending on a particular average molecular weight.

The recited "thermoplastic elastomer at least partially not cross-linked" in line 2 of claim 33 and "not cross-linked thermoplastic elastomer" in lines 2-3 of claim 35 lack an antecedent basis.

The recited "the thermoplastic SIS elastomer" in line 2 of claim 42, lines 3-4 of claim 43 and line 2 of claim 59 lacks an antecedent basis. The recited "a not cross-

Art Unit: 1714

linked thermoplastic elastomer different from the not cross-linked thermoplastic elastomer" in lines 2-3 of claim 43 does not make sense.

The recited "not cross-linked thermoplastic elastomer" in lines 2-3 of claim 54 lacks an antecedent basis. The recited "---comprising a thermoplastic elastomer mixture containing at least a styrenic elastomer and a polyolefin resin, in which the thermoplastic elastomer mixture comprises: a not cross-linked thermoplastic SIS elastomer--- and a thermoplastic elastomer which is at least partially cross-linked ---" in claims 50, 66, 68 and 71 is confusing since components of the thermoplastic elastomer mixture are different from each other, and "the thermoplastic elastomer mixture comprises ---" lacks an antecedent basis.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 87/05310.

WO teaches thermoplastic elastomer compositions comprising a non-crosslinked styrenic rubber and partially crosslinked halobutyl rubber and polyolefin in abstract and examples and at pages 4-15 wherein various ratios of components meeting the instant ratios are taught. Said partially crosslinked halobutyl rubber and polyolefin inherently

Art Unit: 1714

meet the instant crosslinking rate. Various styrenic rubbers including styrene isoprene styrene (SIS) with styrene content of 5-70 wt% are taught at page 7, lines 4-11. Thus, said SIS with styrene content of 5 to about 20 wt% would meet the instant SIS elastomer, and encompasses the instant molecular weight. The composition of WO inherently meets the instant amount of halide salt since no statement regarding such salt is found. The recited "sealing means for---" in claims 50-66 lacks any probative value absent a particular structure or property, and any article such as rack and pinion boots or hoses (page 11, lines 2-4) taught by WO would meet said sealing means.

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize a SIS elastomer with styrene content of 5 to about 20 wt% in WO since choosing a range within a range is considered a *prima facie* obviousness.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,300,418 teaches a composition comprising styrene based thermoplastic elastomers or blends of polyolefin and at least partially vulcanized hydrocarbon rubber and functionalized EPDM at cols. 3 and 4 and in examples.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone

Art Unit: 1714

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tae H Yoon
Primary Examiner
Art Unit 1714

THY/May 5, 2004